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Emergency Mine Communication System

Lockheed Martin – MS2
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Technology to Answer the Challenge

Technologies for Topics A.1 and E.1

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Challenge:

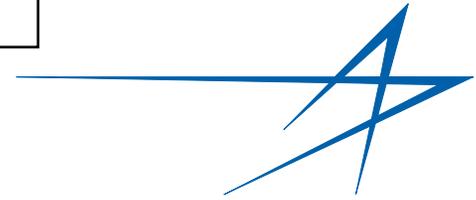
- Provide emergency communications from miners to the surface when the mine's communication infrastructure is damaged and inoperable.

Technology:

- Communications based on low frequency RF is a potential solution for emergency communications.
 - Miners would have a man-portable transceiver allowing *two-way communications* between them and the surface in an emergency:
 - Data and voice two-way communication capability
 - Inertial navigation unit for location information
 - Rescuers would have a larger transceiver unit:
 - Sophisticated receiver for improved sensitivity to detect weak up-link signals from miners
 - Powerful transmitter for assured down-link communication to miners
 - Portable for *rapid deployment* on the surface or in the mine itself
 - Optionally, distributed receivers could be installed in the mine to reduce the distance from trapped miners to the nearest receiver thereby making the emergency communication system more robust

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MS2 brings advanced sensors and processing capabilities that are key to meeting this challenge.

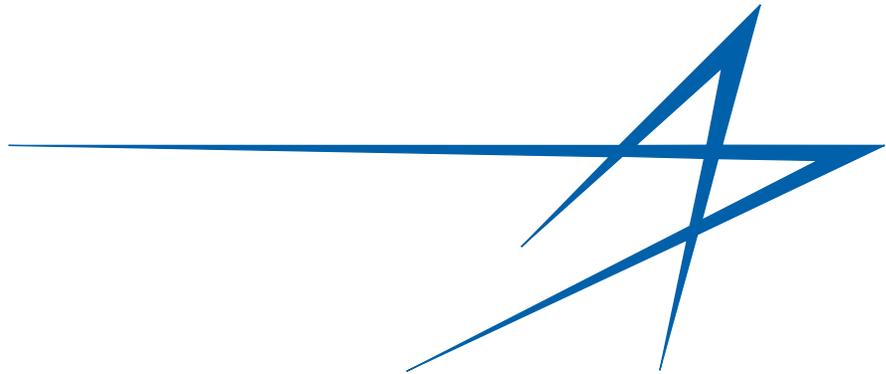


Who We Are

- **Lockheed Martin-MS2 provides surface, air, and undersea applications on more than 460 programs for U.S. military and international customers in nearly 50 nations. The same expertise we provide to military customers is being applied to increase the capabilities of U.S. and international civilian agencies.**
- **These sensors and networked systems include low frequency acoustic, ground penetrating and high-energy RF, ultra-sensitive receivers, and optical/LASER based systems.**
- **For further information please contact:**

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